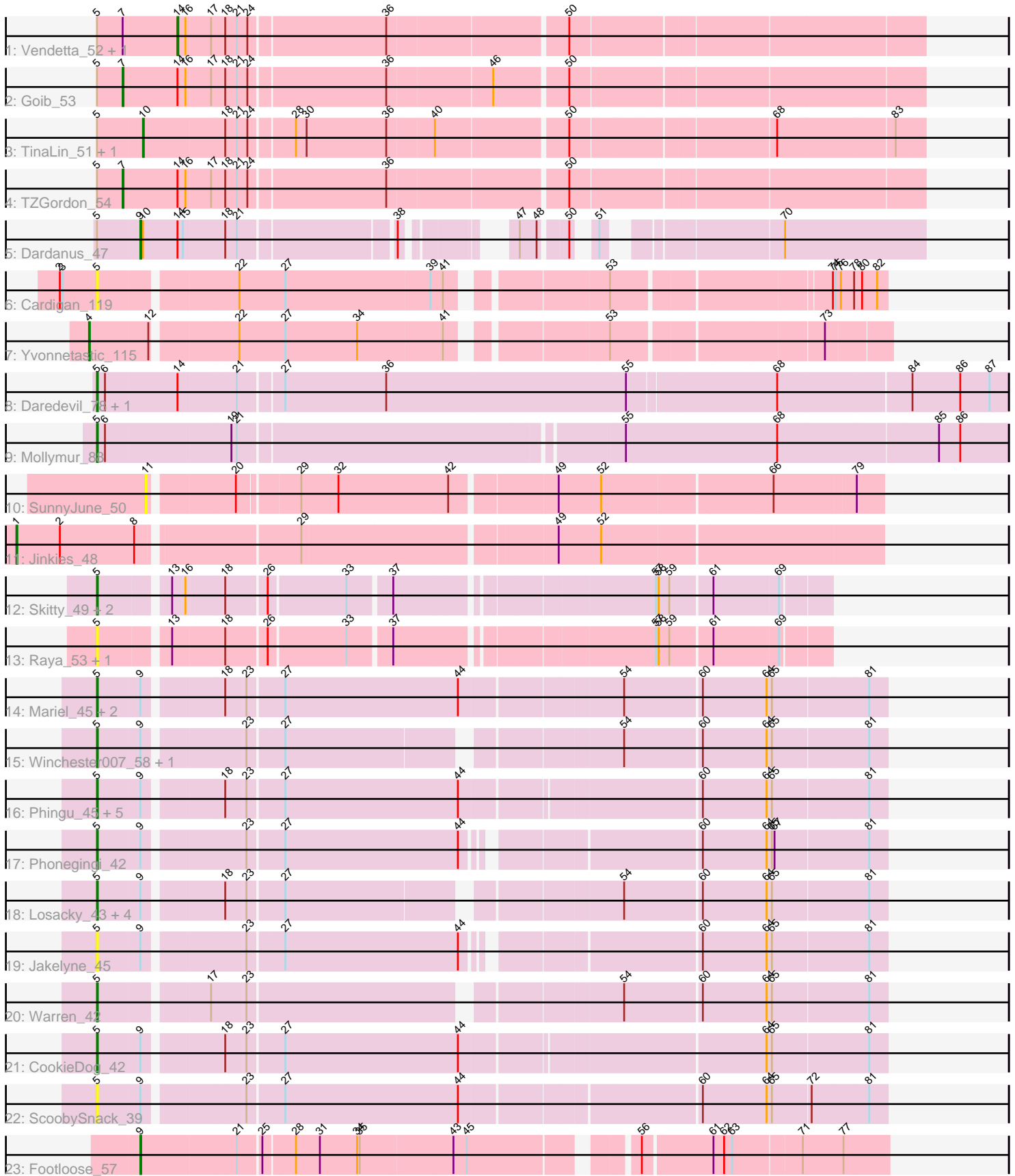


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

## Pham 311771 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311771 has 41 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Vendetta\_52, Splinter\_52
- Track 2 : Goib\_53
- Track 3 : TinaLin\_51, Banquo\_51
- Track 4 : TZGordon\_54
- Track 5 : Dardanus\_47
- Track 6 : Cardigan\_119
- Track 7 : Yvonnetastic\_115
- Track 8 : Daredevil\_78, Towmatter\_78
- Track 9 : Mollymur\_88
- Track 10 : SunnyJune\_50
- Track 11 : Jinkies\_48
- Track 12 : Skitty\_49, Merpity\_56, MrSmee\_55
- Track 13 : Raya\_53, Skyerus\_48
- Track 14 : Mariel\_45, MenE\_43, Antuna\_43
- Track 15 : Winchester007\_58, Pickles13\_41
- Track 16 : Phingu\_45, Blett\_42, Violeta\_44, Carrillo\_44, Bush\_43, NCRodriguez\_44
- Track 17 : Phonegingi\_42
- Track 18 : Losacky\_43, Appa\_42, PhillyJawn\_43, Guzman\_42, Dropshot\_42
- Track 19 : Jakelyne\_45
- Track 20 : Warren\_42
- Track 21 : CookieDog\_42
- Track 22 : ScoobySnack\_39
- Track 23 : Footloose\_57

### ***Summary of Final Annotations (See graph section above for start numbers):***

The start number called the most often in the published annotations is 5, it was called in 16 of the 26 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Antuna\_43, Appa\_42, Blett\_42, Bush\_43, Cardigan\_119, Carrillo\_44, CookieDog\_42, Daredevil\_78, Dropshot\_42, Guzman\_42, Jakelyne\_45, Losacky\_43, Mariel\_45, MenE\_43, Merpity\_56, Mollymur\_88, MrSmee\_55, NCRodriguez\_44, PhillyJawn\_43, Phingu\_45, Phonegingi\_42, Pickles13\_41, Raya\_53,

ScoobySnack\_39, Skitty\_49, Skyerus\_48, Towmatter\_78, Violeta\_44, Warren\_42, Winchester007\_58,

Genes that have the "Most Annotated" start but do not call it:

- Banquo\_51, Dardanus\_47, Goib\_53, Splinter\_52, TZGordon\_54, TinaLin\_51, Vendetta\_52,

Genes that do not have the "Most Annotated" start:

- Footloose\_57, Jinkies\_48, SunnyJune\_50, Yvonnestic\_115,

### Summary by start number:

Start 1:

- Found in 1 of 41 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 1 of 26
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jinkies\_48 (FL),

Start 4:

- Found in 1 of 41 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 1 of 26
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yvonnestic\_115 (DD),

Start 5:

- Found in 37 of 41 ( 90.2% ) of genes in pham
- Manual Annotations of this start: 16 of 26
- Called 81.1% of time when present
- Phage (with cluster) where this start called: Antuna\_43 (GA), Appa\_42 (GA), Blett\_42 (GA), Bush\_43 (GA), Cardigan\_119 (DD), Carrillo\_44 (GA), CookieDog\_42 (GA), Daredevil\_78 (DL), Dropshot\_42 (GA), Guzman\_42 (GA), Jakelyne\_45 (GA), Losacky\_43 (GA), Mariel\_45 (GA), MenE\_43 (GA), Merpity\_56 (FQ1), Mollymur\_88 (DL), MrSmee\_55 (FQ1), NCRodriguez\_44 (GA), PhillyJawn\_43 (GA), Phingu\_45 (GA), Phonegingi\_42 (GA), Pickles13\_41 (GA), Raya\_53 (FQ2), ScoobySnack\_39 (GA), Skitty\_49 (FQ1), Skyerus\_48 (FQ2), Towmatter\_78 (DL), Violeta\_44 (GA), Warren\_42 (GA), Winchester007\_58 (GA),

Start 7:

- Found in 4 of 41 ( 9.8% ) of genes in pham
- Manual Annotations of this start: 2 of 26
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Goib\_53 (CU1), TZGordon\_54 (CU1),

Start 9:

- Found in 22 of 41 ( 53.7% ) of genes in pham
- Manual Annotations of this start: 2 of 26
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Dardanus\_47 (CU3), Footloose\_57 (singleton),

Start 10:

- Found in 3 of 41 ( 7.3% ) of genes in pham
- Manual Annotations of this start: 2 of 26

- Called 66.7% of time when present
- Phage (with cluster) where this start called: Banquo\_51 (CU1), TinaLin\_51 (CU1),

Start 11:

- Found in 1 of 41 ( 2.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SunnyJune\_50 (FL),

Start 14:

- Found in 7 of 41 ( 17.1% ) of genes in pham
- Manual Annotations of this start: 2 of 26
- Called 28.6% of time when present
- Phage (with cluster) where this start called: Splinter\_52 (CU1), Vendetta\_52 (CU1),

### **Summary by clusters:**

There are 9 clusters represented in this pham: DL, CU3, CU1, DD, singleton, GA, FQ2, FQ1, FL,

Info for manual annotations of cluster CU1:

- Start number 7 was manually annotated 2 times for cluster CU1.
- Start number 10 was manually annotated 2 times for cluster CU1.
- Start number 14 was manually annotated 2 times for cluster CU1.

Info for manual annotations of cluster CU3:

- Start number 9 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster DD:

- Start number 4 was manually annotated 1 time for cluster DD.

Info for manual annotations of cluster DL:

- Start number 5 was manually annotated 3 times for cluster DL.

Info for manual annotations of cluster FL:

- Start number 1 was manually annotated 1 time for cluster FL.

Info for manual annotations of cluster FQ1:

- Start number 5 was manually annotated 2 times for cluster FQ1.

Info for manual annotations of cluster GA:

- Start number 5 was manually annotated 11 times for cluster GA.

### **Gene Information:**

Gene: Antuna\_43 Start: 26101, Stop: 26937, Start Num: 5

Candidate Starts for Antuna\_43:

(Start: 5 @26101 has 16 MA's), (Start: 9 @26146 has 2 MA's), (18, 26227), (23, 26248), (27, 26284), (44, 26479), (54, 26650), (60, 26734), (64, 26806), (65, 26812), (81, 26917),

Gene: Appa\_42 Start: 26023, Stop: 26835, Start Num: 5

Candidate Starts for Appa\_42:

(Start: 5 @26023 has 16 MA's), (Start: 9 @26068 has 2 MA's), (18, 26149), (23, 26170), (27, 26206), (54, 26548), (60, 26632), (64, 26704), (65, 26710), (81, 26815),

Gene: Banquo\_51 Start: 32896, Stop: 33726, Start Num: 10

Candidate Starts for Banquo\_51:

(Start: 5 @32848 has 16 MA's), (Start: 10 @32896 has 2 MA's), (18, 32986), (21, 32998), (24, 33010), (28, 33055), (30, 33067), (36, 33157), (40, 33208), (50, 33349), (68, 33565), (83, 33694),

Gene: Blett\_42 Start: 26203, Stop: 27036, Start Num: 5

Candidate Starts for Blett\_42:

(Start: 5 @26203 has 16 MA's), (Start: 9 @26248 has 2 MA's), (18, 26329), (23, 26350), (27, 26386), (44, 26581), (60, 26833), (64, 26905), (65, 26911), (81, 27016),

Gene: Bush\_43 Start: 26151, Stop: 26984, Start Num: 5

Candidate Starts for Bush\_43:

(Start: 5 @26151 has 16 MA's), (Start: 9 @26196 has 2 MA's), (18, 26277), (23, 26298), (27, 26334), (44, 26529), (60, 26781), (64, 26853), (65, 26859), (81, 26964),

Gene: Cardigan\_119 Start: 67606, Stop: 68412, Start Num: 5

Candidate Starts for Cardigan\_119:

(2, 67564), (3, 67567), (Start: 5 @67606 has 16 MA's), (22, 67747), (27, 67798), (39, 67960), (41, 67972), (53, 68125), (74, 68353), (75, 68356), (76, 68362), (78, 68377), (80, 68386), (82, 68401),

Gene: Carrillo\_44 Start: 26124, Stop: 26957, Start Num: 5

Candidate Starts for Carrillo\_44:

(Start: 5 @26124 has 16 MA's), (Start: 9 @26169 has 2 MA's), (18, 26250), (23, 26271), (27, 26307), (44, 26502), (60, 26754), (64, 26826), (65, 26832), (81, 26937),

Gene: CookieDog\_42 Start: 26124, Stop: 26957, Start Num: 5

Candidate Starts for CookieDog\_42:

(Start: 5 @26124 has 16 MA's), (Start: 9 @26169 has 2 MA's), (18, 26250), (23, 26271), (27, 26307), (44, 26502), (64, 26826), (65, 26832), (81, 26937),

Gene: Dardanus\_47 Start: 31666, Stop: 32385, Start Num: 9

Candidate Starts for Dardanus\_47:

(Start: 5 @31621 has 16 MA's), (Start: 9 @31666 has 2 MA's), (Start: 10 @31669 has 2 MA's), (Start: 14 @31708 has 2 MA's), (15, 31714), (18, 31759), (21, 31771), (38, 31930), (47, 32008), (48, 32026), (50, 32053), (51, 32065), (70, 32230),

Gene: Daredevil\_78 Start: 56200, Stop: 55208, Start Num: 5

Candidate Starts for Daredevil\_78:

(Start: 5 @56200 has 16 MA's), (6, 56191), (Start: 14 @56113 has 2 MA's), (21, 56050), (27, 56005), (36, 55891), (55, 55624), (68, 55462), (84, 55315), (86, 55261), (87, 55228),

Gene: Dropshot\_42 Start: 25858, Stop: 26670, Start Num: 5

Candidate Starts for Dropshot\_42:

(Start: 5 @25858 has 16 MA's), (Start: 9 @25903 has 2 MA's), (18, 25984), (23, 26005), (27, 26041), (54, 26383), (60, 26467), (64, 26539), (65, 26545), (81, 26650),

Gene: Footloose\_57 Start: 32676, Stop: 33455, Start Num: 9

Candidate Starts for Footloose\_57:

(Start: 9 @32676 has 2 MA's), (21, 32781), (25, 32805), (28, 32838), (31, 32865), (34, 32907), (35, 32910), (43, 33012), (45, 33027), (56, 33189), (61, 33264), (62, 33276), (63, 33285), (71, 33360), (77, 33405),

Gene: Goib\_53 Start: 33944, Stop: 34795, Start Num: 7

Candidate Starts for Goib\_53:

(Start: 5 @33917 has 16 MA's), (Start: 7 @33944 has 2 MA's), (Start: 14 @34004 has 2 MA's), (16, 34013), (17, 34040), (18, 34055), (21, 34067), (24, 34079), (36, 34226), (46, 34340), (50, 34418),

Gene: Guzman\_42 Start: 26122, Stop: 26934, Start Num: 5

Candidate Starts for Guzman\_42:

(Start: 5 @26122 has 16 MA's), (Start: 9 @26167 has 2 MA's), (18, 26248), (23, 26269), (27, 26305), (54, 26647), (60, 26731), (64, 26803), (65, 26809), (81, 26914),

Gene: Jakelyne\_45 Start: 26233, Stop: 27045, Start Num: 5

Candidate Starts for Jakelyne\_45:

(Start: 5 @26233 has 16 MA's), (Start: 9 @26278 has 2 MA's), (23, 26380), (27, 26416), (44, 26611), (60, 26842), (64, 26914), (65, 26920), (81, 27025),

Gene: Jinkies\_48 Start: 35024, Stop: 35947, Start Num: 1

Candidate Starts for Jinkies\_48:

(Start: 1 @35024 has 1 MA's), (2, 35072), (8, 35156), (29, 35324), (49, 35594), (52, 35642),

Gene: Losacky\_43 Start: 26243, Stop: 27055, Start Num: 5

Candidate Starts for Losacky\_43:

(Start: 5 @26243 has 16 MA's), (Start: 9 @26288 has 2 MA's), (18, 26369), (23, 26390), (27, 26426), (54, 26768), (60, 26852), (64, 26924), (65, 26930), (81, 27035),

Gene: Mariel\_45 Start: 26592, Stop: 27428, Start Num: 5

Candidate Starts for Mariel\_45:

(Start: 5 @26592 has 16 MA's), (Start: 9 @26637 has 2 MA's), (18, 26718), (23, 26739), (27, 26775), (44, 26970), (54, 27141), (60, 27225), (64, 27297), (65, 27303), (81, 27408),

Gene: MenE\_43 Start: 26123, Stop: 26959, Start Num: 5

Candidate Starts for MenE\_43:

(Start: 5 @26123 has 16 MA's), (Start: 9 @26168 has 2 MA's), (18, 26249), (23, 26270), (27, 26306), (44, 26501), (54, 26672), (60, 26756), (64, 26828), (65, 26834), (81, 26939),

Gene: Merpity\_56 Start: 32461, Stop: 33207, Start Num: 5

Candidate Starts for Merpity\_56:

(Start: 5 @32461 has 16 MA's), (13, 32530), (16, 32545), (18, 32587), (26, 32629), (33, 32713), (37, 32758), (57, 33025), (58, 33028), (59, 33040), (61, 33085), (69, 33154),

Gene: Mollymur\_88 Start: 61334, Stop: 60348, Start Num: 5

Candidate Starts for Mollymur\_88:

(Start: 5 @61334 has 16 MA's), (6, 61325), (19, 61190), (21, 61184), (55, 60773), (68, 60602), (85, 60425), (86, 60401),

Gene: MrSmee\_55 Start: 32435, Stop: 33181, Start Num: 5

Candidate Starts for MrSmee\_55:

(Start: 5 @32435 has 16 MA's), (13, 32504), (16, 32519), (18, 32561), (26, 32603), (33, 32687), (37, 32732), (57, 32999), (58, 33002), (59, 33014), (61, 33059), (69, 33128),

Gene: NCRodriguez\_44 Start: 26345, Stop: 27178, Start Num: 5  
Candidate Starts for NCRodriguez\_44:  
(Start: 5 @26345 has 16 MA's), (Start: 9 @26390 has 2 MA's), (18, 26471), (23, 26492), (27, 26528),  
(44, 26723), (60, 26975), (64, 27047), (65, 27053), (81, 27158),

Gene: PhillyJawn\_43 Start: 26020, Stop: 26832, Start Num: 5  
Candidate Starts for PhillyJawn\_43:  
(Start: 5 @26020 has 16 MA's), (Start: 9 @26065 has 2 MA's), (18, 26146), (23, 26167), (27, 26203),  
(54, 26545), (60, 26629), (64, 26701), (65, 26707), (81, 26812),

Gene: Phingu\_45 Start: 26236, Stop: 27069, Start Num: 5  
Candidate Starts for Phingu\_45:  
(Start: 5 @26236 has 16 MA's), (Start: 9 @26281 has 2 MA's), (18, 26362), (23, 26383), (27, 26419),  
(44, 26614), (60, 26866), (64, 26938), (65, 26944), (81, 27049),

Gene: Phonegingi\_42 Start: 26069, Stop: 26881, Start Num: 5  
Candidate Starts for Phonegingi\_42:  
(Start: 5 @26069 has 16 MA's), (Start: 9 @26114 has 2 MA's), (23, 26216), (27, 26252), (44, 26447),  
(60, 26678), (64, 26750), (65, 26756), (67, 26759), (81, 26861),

Gene: Pickles13\_41 Start: 26333, Stop: 27145, Start Num: 5  
Candidate Starts for Pickles13\_41:  
(Start: 5 @26333 has 16 MA's), (Start: 9 @26378 has 2 MA's), (23, 26480), (27, 26516), (54, 26858),  
(60, 26942), (64, 27014), (65, 27020), (81, 27125),

Gene: Raya\_53 Start: 31455, Stop: 32201, Start Num: 5  
Candidate Starts for Raya\_53:  
(Start: 5 @31455 has 16 MA's), (13, 31524), (18, 31581), (26, 31623), (33, 31707), (37, 31752), (57,  
32019), (58, 32022), (59, 32034), (61, 32079), (69, 32148),

Gene: ScoobySnack\_39 Start: 25838, Stop: 26671, Start Num: 5  
Candidate Starts for ScoobySnack\_39:  
(Start: 5 @25838 has 16 MA's), (Start: 9 @25883 has 2 MA's), (23, 25985), (27, 26021), (44, 26216),  
(60, 26468), (64, 26540), (65, 26546), (72, 26588), (81, 26651),

Gene: Skitty\_49 Start: 30277, Stop: 31023, Start Num: 5  
Candidate Starts for Skitty\_49:  
(Start: 5 @30277 has 16 MA's), (13, 30346), (16, 30361), (18, 30403), (26, 30445), (33, 30529), (37,  
30574), (57, 30841), (58, 30844), (59, 30856), (61, 30901), (69, 30970),

Gene: Skyerus\_48 Start: 29573, Stop: 30319, Start Num: 5  
Candidate Starts for Skyerus\_48:  
(Start: 5 @29573 has 16 MA's), (13, 29642), (18, 29699), (26, 29741), (33, 29825), (37, 29870), (57,  
30137), (58, 30140), (59, 30152), (61, 30197), (69, 30266),

Gene: Splinter\_52 Start: 34027, Stop: 34818, Start Num: 14  
Candidate Starts for Splinter\_52:  
(Start: 5 @33940 has 16 MA's), (Start: 7 @33967 has 2 MA's), (Start: 14 @34027 has 2 MA's), (16,  
34036), (17, 34063), (18, 34078), (21, 34090), (24, 34102), (36, 34249), (50, 34441),

Gene: SunnyJune\_50 Start: 34761, Stop: 35537, Start Num: 11  
Candidate Starts for SunnyJune\_50:

(11, 34761), (20, 34848), (29, 34911), (32, 34953), (42, 35076), (49, 35187), (52, 35235), (66, 35418), (79, 35508),

Gene: TZGordon\_54 Start: 33313, Stop: 34164, Start Num: 7

Candidate Starts for TZGordon\_54:

(Start: 5 @33286 has 16 MA's), (Start: 7 @33313 has 2 MA's), (Start: 14 @33373 has 2 MA's), (16, 33382), (17, 33409), (18, 33424), (21, 33436), (24, 33448), (36, 33595), (50, 33787),

Gene: TinaLin\_51 Start: 32790, Stop: 33620, Start Num: 10

Candidate Starts for TinaLin\_51:

(Start: 5 @32742 has 16 MA's), (Start: 10 @32790 has 2 MA's), (18, 32880), (21, 32892), (24, 32904), (28, 32949), (30, 32961), (36, 33051), (40, 33102), (50, 33243), (68, 33459), (83, 33588),

Gene: Towmatter\_78 Start: 56279, Stop: 55287, Start Num: 5

Candidate Starts for Towmatter\_78:

(Start: 5 @56279 has 16 MA's), (6, 56270), (Start: 14 @56192 has 2 MA's), (21, 56129), (27, 56084), (36, 55970), (55, 55703), (68, 55541), (84, 55394), (86, 55340), (87, 55307),

Gene: Vendetta\_52 Start: 34027, Stop: 34818, Start Num: 14

Candidate Starts for Vendetta\_52:

(Start: 5 @33940 has 16 MA's), (Start: 7 @33967 has 2 MA's), (Start: 14 @34027 has 2 MA's), (16, 34036), (17, 34063), (18, 34078), (21, 34090), (24, 34102), (36, 34249), (50, 34441),

Gene: Violeta\_44 Start: 26115, Stop: 26948, Start Num: 5

Candidate Starts for Violeta\_44:

(Start: 5 @26115 has 16 MA's), (Start: 9 @26160 has 2 MA's), (18, 26241), (23, 26262), (27, 26298), (44, 26493), (60, 26745), (64, 26817), (65, 26823), (81, 26928),

Gene: Warren\_42 Start: 26076, Stop: 26891, Start Num: 5

Candidate Starts for Warren\_42:

(Start: 5 @26076 has 16 MA's), (17, 26187), (23, 26223), (54, 26604), (60, 26688), (64, 26760), (65, 26766), (81, 26871),

Gene: Winchester007\_58 Start: 32135, Stop: 32947, Start Num: 5

Candidate Starts for Winchester007\_58:

(Start: 5 @32135 has 16 MA's), (Start: 9 @32180 has 2 MA's), (23, 32282), (27, 32318), (54, 32660), (60, 32744), (64, 32816), (65, 32822), (81, 32927),

Gene: Yvonnetastic\_115 Start: 65057, Stop: 65878, Start Num: 4

Candidate Starts for Yvonnetastic\_115:

(Start: 4 @65057 has 1 MA's), (12, 65120), (22, 65207), (27, 65258), (34, 65339), (41, 65432), (53, 65585), (73, 65807),